1061-52-117 **Deborah Oliveros*** (dolivero@matem.unam.mx), Instituto de Matematicas, Circuito Exterior C.U., Mexico City, D.F. 04510. *Helly type therems and its relation with graph theorey.*

Perhaps one of the most widely used theorems in convex geometry is Helly theorem which states the following: Helly's Theorem (1913). Let F be a finite family of at least $d+1$ convex sets in R^d. If every $d+1$ members of F have a point in common, then there is a point common to all members of F. Helly's theorem also holds for infinite families of compact convex sets, and has stimulated numerous generalization and variants. Results of the type "if every m members of a family of objects have property P then the entire family has the property P " are called Helly-type theorems. The minimum positive integer m that makes this theorem possible is called the Helly number. A very nice natural generalization of Helly's theorem is the piercing problem, also known as the (p,q) problem, and was first investigated by Hadwiger and Debrunner. We will discuss how some of this Helly type theorems particularly how the piercing problem can be investigated from the combinatorial point of view of graph theory specially how does chromatic number of the complement of intersection graphs may give good bounds to this problems. (Received April 10, 2010)